

September 22-26, 2009; Mallorca, Spain

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Sponsored by: *Technical University of Catalonia (UPC), University of Balearic Islands (UIB), Spain and IEEE Industrial Electronics Society*

Aim: The aim of the conference is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of technology, as well as actual and potential applications to industrial and factory automation.

Solicited Papers: Research papers reporting on new developments in technological sciences. Industry and development papers reporting on actual developments of technology, products, systems and solutions. Tutorial and survey papers. Work-in-progress papers. The best papers related to energy issues will be selected to be published in the International Journal of Integrated Energy Systems. In addition, ETFA2009 solicits special session proposals to stimulate in-depth discussions in special areas relevant to the conference theme.

Topics within the scope of the conference include:

Information Technology in Automation

Development Platforms and Frameworks: .NET, J2EE; Programming languages: Java, C#, Software System Security, Tool chains for Software Design and Development, Engineering and commissioning tools, etc.; Operating Systems; Databases and Web Interfaces; Realtime Mobile Computing, Network Computing, Distributed Real-time Systems, Industrial Signal Processing, Sensor fusion.

Industrial Communication Systems

Real-Time Communications and Applications; Fieldbus Networks; Real-Time Ethernet Networks; Wireless and Hybrid (wired/wireless) Networks for Industrial Communications; Dependability Aspects and Fault Tolerance; Middleware for Industrial Communication Systems; Vertical Integration Aspects: Web-based Setup, Maintenance and Configuration; Internetworking; Formal Description Techniques; Intranet and Internet Access; Factory Applications and Case Studies. Performance Analysis of Industrial Communication Systems.

Real-Time and (Networked) Embedded Systems

Real-Time Computing; Real-Time Operating Systems; Real-Time Communications; Networked Embedded Systems Technology; Wireless Sensor Networks; Embedded Systems Security; Sensor Technology; Cyber Physical Systems; Design and Implementation; Design Methodologies and Tools; Models of Computation and Formal Methods; Hardware/Software Co-Design; Components and Platforms; Power Supply and Management; Data Integration and Fusion; Communication Modes; Quality of Service control; Case studies (industrial automation, automotive, avionics, communications...).

Automated Manufacturing Systems

Formal Modeling of Manufacturing and Process Systems; Simulation, Queueing Systems, Petri Nets; Synthesis and Analysis Techniques, Performance Evaluation and Reliability, Scheduling; Recent Developments in Standardization; Test Cases, Benchmarks, Tools; Discrete and Continuous Industrial Automation Systems; Automated Manufacturing Systems and Enterprise Integration; Applications and Experiences in Practice.

Industrial Control

Process Control; Equipment Control; Intelligent Control; Supervisory Control; Industrial Control Implementation; Discrete and Continuous Automation Systems; Equipment and Process Monitoring; fault Detection and Classification; Process Modelling and Optimization.

Computational Intelligence and Modern Heuristics in Automation

Intelligent Systems and Control, Modern Heuristics, Artificial Intelligence, and Data Mining in automation and industrial applications; Neural/Fuzzy/Evolutionary approaches in automation; Modern heuristics methods in factory automation based on predictive, adaptive control, recognition, navigation, motion control, competitive, self-organizing learning, and clustering; Computational Intelligence in wireless automation protocols such as Bluetooth, WiFi, and ZigBee; Computational Intelligence in security, reliability, and fault-tolerance in automation; Ant colonies optimization and swarm intelligence in automation; Also Petri Nets, Chaos, Markov models, Support Vector Machines, and Expert Systems.

Intelligent Robots & Systems

Machine Vision and Intelligence, Actuators and Motion Control, Multisensor Fusion and Integration, Intelligent Robots and Systems, Intelligent Space.

Conference Format: The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations; work-in-progress (WIP) sessions; panel discussions on the state-of-the-art and emerging trends, involving leading experts from industry and academia; and public discussion sessions moderated by leading experts in the field of industrial automation systems.

Submission of Papers: The working language of the conference is English. Two types of submissions are solicited. Long Papers – limited to 8 double column pages in a font no smaller than 10-points. Work-in-Progress and Industry practice – limited to 4 double column pages in a font no smaller than 10-points. Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site.

Best Paper Award: Best paper awards in Factory Automation and Emerging Technologies will be presented at the conference banquet dinner. Authors of outstanding papers will be invited to submit a revised version of their papers for publication in a special section in IEEE Transactions on Industrial Informatics.

Further Information: ETFA'09 Conference Secretariat: Tel: +34 93 401 6974; Fax: +34 93 401 7045; Email: contact@etfa2009.org

Paper Acceptance: Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

No-show Policy: The ETFA 2009 Organizing Committee reserves the right to exclude a paper from distribution after the conference at IEEE Xplore if the paper is not presented at the conference.

Author's Schedule:

Deadline for submission of long papers:

April 30, 2009

Notification of acceptance of long papers:

June 8, 2009

Deadline for submission of work-in-progress papers and Industry practice:

June 14, 2009

Notification of acceptance of work-in-progress papers and Industry practice:

July 7, 2009

Deadline for submission of final manuscripts – regular and special sessions:

July 15, 2009

Deadline for submission of final manuscripts – work-in-progress papers and Industry practice:

July 15, 2009

<http://www.etfa2009.org>